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TELECOMMUNICATIONS AND COMPUTERS

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FOREWORD

This report is intended for the information of Canadian companies in the telecommunications, computer and information services sectors. It provides an overview of the many initiatives being taken within the European Community in preparation for "Europe 1992", the formation of the "single market" in Europe. In so doing, it identifies priorities within the European Community (EC) and its executive arm, the European Commission, and highlights those activities or directions that may impact upon the future activities of Canadian industry.

The report represents the efforts of an Interdepartmental Working Group of officials from the Department of Communications; Industry, Science and Technology Canada; Consumer and Corporate Affairs Canada; and External Affairs and International Trade Canada. In addition, many other officials have contributed within their Departments or as members of subgroups that assessed specific issues. To all these individuals, we, the co-chairpersons of the Working Group, express our appreciation, with particular mention to the author of this report, Mr. Michael Tiger, Senior Policy Advisor in the International Relations Branch at the Department of Communications.

The Working Group was formed to provide the government with an assessment of the European initiatives in these sectors. As discussed in the report, there are ongoing developments which require continuous review by government. Equally, we feel that Canadian industry could also benefit from a better understanding of the developments surrounding the creation of the single market. Hence, although it is too early to provide a comprehensive report, we hope this initial overview will be of benefit to Canadian companies.

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EUROPE 1992 INTERDEPARTMENTAL WORKING GROUP REPORTS

This report is one in a series of publications dealing with the European Single Market being released by the Government of Canada. It reflects the research and analysis of one of the Government's interdepartmental working groups, established at the request of the Department of External Affairs and International Trade, to assess the legislation put into place by the European Community to complete its internal market.

The working groups have been asked to analyze the EC legislation pertaining to their area of expertise and assess the potential impact that this legislation and the changes that it might induce will have on the Canadian economy. To complete this task, they have been working in consultation with the Sectoral Advisory Groups on International Trade and with industry associations.

The working groups' reports do not represent the final position of the Canadian Government. They are working documents published to facilitate Government's consultation with the provinces and the private sector and to disseminate technical information on the European Single Market, their purpose is to assist Canadian businesses in preparing their own responses to the challenge of 1992.

In addition to the working group reports, the Department of External Affairs and International Trade has commissioned consultants' studies on the implications of the European Single Market. The first study, on the impact of 1992 on Europe, was released in April 1989; the second study, on the impact of 1992 on specific sectors of the Canadian economy, are being released in stages, starting December 1989.

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TABLE OF CONTENTS

	Page
Introduction	1
The European Context	2
Strategies to Reshape European Markets	2
The Community's Regulatory Agenda	3
Findings of the Interdepartmental Working Group	3
a) (i) Market Access	3
(ii) Government Procurement	3
b) Telecommunications Standards	4
c) EC Regulations	4
d) Technical Cooperation	5
e) General Conclusions	5
Assessment of European Initiatives	6
Implications for R&D Co-operation and Industry Programs	7
Annex 1	
List of European Commission Directives, Resolutions, Regulations, Recommendations and Proposals	

REPORT ON EUROPE 1992 AND THE TELECOMMUNICATIONS AND INFORMATION SECTORS

Introduction

This overview on Europe 1992 is based upon:

a) the work of an Interdepartmental Working Group on informatics and telecommunications; and
b) a visit to the European Commission from April 11-14, 1989, by six senior officials from the Department of Communications, Industry, Science and Technology Canada (ISTC) and the Treasury Board Secretariat.

Over the course of the past 10 months, the Interdepartmental Working Group reviewed recent internal measures of the European Community (EC) and its executive arm, the European Commission, that could affect Canadian providers of computer and telecommunications equipment and services. In addressing its task, the Working Group established four subgroups on:

a) Market Access and Government Procurement;
b) Telecommunications Standards;
c) Regulations;
d) Technical Cooperation.

Each of the subgroups assessed European developments within the indicated areas. The work of these subgroups will continue in order to maintain an ongoing oversight of the continuing developments in Europe as they affect Canadian industry and the positions to be adopted in the GATT negotiations.

The mission to the European Commission, led by the Assistant Deputy Minister, Technology, Research and Telecommunications, Department of Communications, represented the first high level consultations with the European Commission on telecommunication policies and provided a first-hand assessment of European developments. These consultations, which took place on April 13 and 14, 1989, followed directly upon a mission to Germany of senior Canadian officials, led by the Deputy Minister of Industry, Science and Technology Canada which examined that country's science policies. This sequence of meetings provided a unique opportunity to review the policies of both the European Community and those of a leading Member State. There was a general feeling among both delegations that similar consultations should be organized in the future.

The European Context

The European Community is in the midst of a determined effort to forge a single European market for goods and services by 1992. This commitment to an economically united Europe is based upon the realization that the existing segmented national markets will not allow Europe to compete on an international scale. To achieve its goal, the Community has put into play policies that will: a) dismantle national protectionist barriers, including state monopolies; b) introduce more vigorous competition policies at the European and national levels; c) provide long term scientific and technological (R&D) funding in sectors where Europe's perceived comparative advantages should lead to successful commercialization; and d) encourage a pan-European approach to the production of goods and the supply of services.

Since the late 1970s, the telecommunications and computer and information sectors have been targetted by the Commission and the Member States as sectors vital to the restructuring of their national economies and international competitiveness. These sectors were also perceived as a source of major internal economic growth in the 1990s. In their analysis, the Europeans recognized that they were burdened with two major impediments. First, in the telecommunications sector, the Post, Telegraph and Telephone (PTT) authorities operated as traditional state monopolies and, as such, were expected to fulfill numerous political, social and economic objectives, including national

procurement policies, cross-subsidization of postal services, and general employment policies. Second, there were no apparent European competitors in the growing computer and information sectors to match multinational corporations in the U.S. and Japan such as IBM or Fujitsu. Moreover, the long-term strength of European electronics manufacturers was questionable. The concept of Europe 1992 and the policies that are being put into play in the telecommunications and information sectors are intended to respond to these challenges on an unprecedented scale.

Strategies to Reshape European Markets for Telecommunications and Information Technologies

The European Community is pursuing two broad strategies in its drive to make the telecommunications sector competitive internally and, as a consequence, on an international scale. The first pillar is a step-by-step regulatory and policy process through Directives, Regulations, Recommendations and Proposals issued by the European Commission which will reshape the national and pan-European environments. This process is outlined in the Commission's extensive Green Paper on the Development of the Common Market for Telecommunications Services and Equipment issued on June 30, 1987.

The second pillar is a major scientific and technological (S&T) support program focused upon strategic industrial sectors. The Commission's budget for the current five year cycle of this S&T Framework Program is ECU 5.4 billion (about $7.5 billion CDN). As this is a cost-shared program, overall spending by government and industry would be $15 billion (or $3 billion per annum). In addition, there are complementary R&D expenditures at the national level which, in countries such as Germany, can exceed the German contribution to the Commission's S&T budget by a factor of 8 or 9.

Telecommunications and associated information technology industries (e.g., microelectronics, computers) account for 42% of the total Commission R&D expenditures. This is the largest allocation by far and nearly double the expenditures on the next largest sector, the energy sector, which includes funds for development of nuclear energy. In contrast, Canada allocates less than 10% of total federal government R&D expenditures to these two sectors.

The Community's Regulatory Agenda in Telecommunications

The policy objectives of the Community for 1992, as expressed by the Directives, Regulations and Recommendations of the European Commission, are the following:

1. full terminal equipment competition based on common standards;
2. full network equipment competition based on agreed government procurement rules for the PTTs;
3. increased levels of competition in telecommunications services, such as Value Added Networks (VANS), outlined in proposals for Open Network Provision (ONP);
4. a sustained movement towards a more cost-based pricing structure.

New institutional mechanisms to support the new arrangements are being put in place. These include:

1. encouraging the establishment of an independent standards body, the European Telecommunications Standards Institute or ETSI;
2. agreement to establish national regulators that are independent and separate from the PTTs;

Two additional telecommunication services initiatives are scheduled over the short term. First, the Commission will issue a Green Paper on European satellite services. Second, there is the planned establishment of a pan-European digital cellular network in 1991 which will offer an alternative to the existing but incompatible national cellular systems.

Findings of the Interdepartmental Working Group on Informatics and Telecommunications

The assessments of European Commission initiatives by the four subgroups were based upon EC Directives, Regulations, Recommendations and Proposals and information obtained from various sources. These included the Canadian Mission to the European Communities, the Delegation of the Commission of the European Communities, consultants reports, and a visiting delegation from the EC. The results of these reviews are summarized below.

a) Market Access and Government Procurement

(i) Market Access

The concept of "market access" represents a general objective of trade negotiations and the EC measures reviewed to date were generally acceptable in GATT trade terms. However, at a later date, a more rigorous assessment of specific EC directives and proposals will be necessary to ensure their conformity with established trade practices and principles. The key elements to assess include the principles of national treatment, Most-Favoured Nation (MFN), tariffs, right of establishment, quantitative restrictions (quotas), procurement practices and selected non-tariff barriers (e.g., standards and regulations). This review should establish if negotiations are required to influence EC policies and determine whether such negotiations should be conducted directly with the EC, its Member States or through the GATT. The Working Group noted that the continued delegation of negotiating authority to the Commission in the current round of the GATT Multilateral Trade Negotiations (MTN) added to the influence which the EC could bring to bear in trade negotiations.

In general, Canadian firms seeking market access to the EC should continue to focus on the individual Member States until such time as Community-wide policies supercede national policies. It was noted that in the telecommunications and information technology sectors, the EC has made statements on the need for "reciprocity" or "reciprocal advantages" before it will permit entry to its internal market by non-EC countries. This approach will require continued monitoring by the Departments concerned with these and other sectors in which similar principles are expected to be applied. For example, in the area of financial services the reciprocity principle has been elaborated further by the Commission and it will be necessary to assess the applicability of such proposals to the telecommunications and computer sectors.

(ii) Government Procurement

The EC has taken a number of important steps to establish a Community-wide procurement policy. These commenced with the Council Recommendation in November 1984 (84/550/EEC) to open up at least 10% of the annual procurement by Member State PTTs of terminals and network equipment. More recently, the March 1988 Directive (88/295/EEC) has sought to establish more transparent procedures for contract awards by the Member States and encourage greater compliance with EC procedures. In addition, it was noted that the Commission's "Proposal for a Council Directive on Procurement in the Telecommunications Sector (COM (88) 378 Final)" reinforced the established preference for Community-origin supplies over equivalent offers from third countries "within certain limits". It was noted that it is standard and acceptable practice within the EC for telecommunication entities to reject bids with less than 50% EC content (goods and services). As the telecommunications equipment sector is effectively excluded from the GATT procurement code, there is no existing multilateral discipline to favour a competitive approach.

EC legislation and procurement practices will need to be reviewed as part of the current GATT-MTN round where the GATT Agreement on Government Procurement is being re-negotiated. The telecommunications sector is expected to form an important element in the GATT Agreement; much will depend on the willingness of private and public operators in the U.S., EC and Japan to open up to foreign suppliers.

b) Telecommunications Standards

Within the EC's numerous activities in the telecommunications sector, progress has been greatest in the area of standards where the EC objective is to achieve legislative harmonization, transparency, and mutual recognition of testing and certification practices. If achieved by the end of 1992, these goals will facilitate the development and marketing of equipment within the EC by European-based companies. It is the opinion of the Working Group that although the EC objectives may not be reached by the end of 1992, the movement towards harmonization of standards will be achieved at some point. Canadian firms operating in the EC should welcome this development provided they are not excluded from the unified market by virtue of these standards.

At this time, while Canada cannot participate directly in the development of European voluntary standards, a number of avenues exist for Canada to be aware of and react to developments in EC policy. These include the publication of the CEN/CENELEC[1] review of Monthly Activities, availability of draft European Standards during the six month inquiry phase and discussions of European Standards in an ISO/IEC/CCITT (ITU)[2] context. While such transparency provisions are in place for CEN/CENELEC, transparency provisions for ETSI are not yet confirmed but Canada has been offered guest status at ETSI assemblies. In addition, the EC has recently decided to publish a weekly list of member state notifications of proposed technical regulations and standards under the 83/189 Directive.

During the aforementioned six-month inquiry period for the development of CEN/CENELEC voluntary standards, the European standards organizations have agreed to provide draft standards through ISO member bodies in non-EC countries and to consider comments received from these bodies. It is envisioned that the Standards Council of Canada, the Canadian member body in ISO, will be responsible for making this information available to the Canadian business community and will convey Canadian responses before the adoption of these draft standards. In addition, the Europe 1992 Working Group on Standards will report separately on specific arrangements being concluded to alert Canadian interest groups to proposed and draft CEN/CENELEC/ETSI standards.

The Commission's plans for the future European Organization for Testing and Certification of equipment, which require approval by the Council, are outlined in its proposal dated July 24, 1989, COM(89)209. The thrust of the Community certification policy is to provide open access to new testing and certification bodies which meet established criteria and, where practical, to encourage self-certification by manufacturers.

c) EC Regulations

Over the years, the Member States have used regulations to limit or close their domestic telecommunications markets to foreign companies by: (a) prohibiting foreign ownership of basic facilities; (b) denying the right of establishment for foreign (or non-PTT domestic) providers of enhanced services; and (c) limiting interconnection to the public networks, including restrictions on the use of leased lines. The EC's declared intention to encourage competition in telecoms services within Europe 1992 may not, in its final form, apply uniformly to third parties. Thus, market entry for Canadian companies could become subject to negotiations that entail the EC's notion of "reciprocity".

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1 CEN - European Standardization Committee
CENELEC - European Committee for Electrotechnical Standardizations

2 ISO - International Organization for Standardization
IEC - International Electrotechnical Commission
CCITT - ITU Consultative Committee for International Telephone and Telegraph

In this regard, three EC Directives of note have been issued. They deal with:

(1) Competition in the Markets in Telecommunications Terminal Equipment (Directive 88/301/EEC);

(2) Competition in the Markets for Telecommunications Services (draft Directive of 7 December 1988); and

(3) the establishment of the internal market for telecommunications services through the implementation of Open Network Provision or ONP (proposed Council Directive of 9 January 1989, revised 10 August, 1989; COM (89)325).

It was noted that the direction of the Community is clear, i.e., the Community will create an internal telecommunications equipment market and it will develop competition in the provision of value-added services. However, as yet undefined "essential" requirements may be invoked to maintain some telecommunications services on a monopoly basis within the EC. Moreover, disagreements among Member States and between Member States and the Commission have delayed the implementation of some major EC Directives.

d) Technical Cooperation

The Working Group reviewed some 30 government-to-government bilateral technical cooperation agreements, as well as a number of industry-to-industry agreements. Existing government-to-government agreements should not be affected by Europe 1992, particularly those agreements that are part of formal bilateral accords between, for example, Canada and Germany, France or the UK. In addition, there is a Canada-European Community 1976 General Framework Agreement for Economic and Commercial Cooperation under which some limited science and technology (S&T) projects have been implemented. The Working group referred to the important initiatives taken by the Canadian space sector as part the S&T Framework Agreement. These have been further extended through bilateral agreements between the Canadian space industry and European space industry, and by the Canada/European Space Agency (ESA) Agreement on Close Cooperation. Canadian participation in the satellite communications programs of ESA has been instrumental in these developments and in bringing about the award of follow-on contracts.

In terms of industry-to-industry cooperation, the review was limited to a few specific Canadian programs but without the benefit of an industry survey. Programs reviewed were the former Technology Opportunities in Europe Program (TOEP) and the new Strategic Technologies Program (STP) of ISTC, and External Affairs' Technology Inflow Program (TIP). The need to promote technical cooperation programs was noted but only following an assessment of those areas most likely to succeed. The subgroup proposed that attempts be made to negotiate expanded access to major EC programs (e.g., RACE, ESPRIT). This point was pursued during the April 1989 visit to Brussels by DOC officials. In addition, the issue of a general S&T framework agreement with the EC was subsequently raised at the Ministerial level. The Subgroup recommended that existing Canadian government programs should continue to support co-operative R&D with the EC and encourage technical cooperation between Canadian and EC industries. The possibility of a specific Canada-EC Memorandum of Understanding (MOU) for this sector was put forward as one option.

e) General Conclusions

Overall, an open, unified European market (post-1992) should facilitate the development of competitive Canadian firms through increased exports to the growing European market and increased returns on direct foreign investments in Europe. Canadian companies will, however, face increased competition from European firms at home and abroad. The key issues for Canada will be "market access" and the interpretation of "reciprocity" by the EC. Further examination of EC initiatives from a trade perspective, and the monitoring of specific EC Committees, will be necessary. A detailed review of barriers or trade issues identified by the subgroups (and elsewhere) should determine their negotiability within the GATT-MTN framework.

Assessment of European Initiatives

In the area of telecommunications policy and regulation, the European Community is playing "catch-up" to the existing Canadian and U.S. environment. Ownership of most of the Canadian industry has been in private hands for many years and, in areas under federal jurisdiction (70% of the Canadian market), our liberalization and competition policies for services and equipment have for several years reflected policies similar to those now being adopted in Europe. Our infrastructure is relatively sophisticated and efficient and, in areas under federal jurisdiction, there are no regulatory obstacles to effective competition in the areas of terminal equipment or value-added and enhanced services. However, there have been regulatory barriers in some provincial jurisdictions which impeded competition in these markets in certain parts of the country. The differences in federal-provincial regulatory approaches will be addressed in the future following the recent Supreme Court Decision in the Alberta Government Telephone (AGT) case. To maintain the international competitiveness of Canadian industry, a national approach to Canada's telecommunications sector becomes increasingly important. Otherwise, we could be bypassed by the Europeans and their market of 320 million people sometime after 1992.

The Europeans face extremely difficult political decisions. Liberalization and competition policies could jeopardize the domestic and European positions of some national players as competition for market share heats up within the Community. At the same time, the policies will open new doors to highly competitive foreign interests (e.g., U.S., Japan, Canada/Northern Telecom), especially those established within the Community. In their adjustments towards increased competition, the Member States have approved and encouraged consortia, mergers and acquisitions among European and foreign players, or joint ventures with foreign companies, that re-position European-based companies.

The object has been to capture sufficient market share to succeed internationally. Examples include: a) the CGE/ITT agreement which merged ITT's telecommunications interests with CGE's Alcatel-Thomson to create the world's second largest telecommunications manufacturer; b) AT&T's purchase of 22% of Olivetti; c) the 1988 merger of GEC's and Plessey's telecommunications interests which placed the new company among the top ten producers of telephone exchanges; d) Siemens and Philips co-operation in advanced microchips (the Megaproject); e) Northern Telecom's participation in STC (UK) and numerous other corporate arrangements. Domestically, the Europeans have privatized and restructured some PTTs, encouraged them to diversify into new services, and have continued to use them to shore up European manufacturers through procurement policies.

The motives for this extensive restructuring of the public and private sectors are founded in the industry's economics. Development costs for major telecommunications products - like central office switches - have accelerated rapidly. Without a unified European market, European suppliers will be unable to offset or recoup rising product development costs in the world markets of the 1990s.

Given the complexity and breadth of the corporate and public policy adjustments underway, some of the milestones for Europe 1992 have been missed and others will be delayed by one or more years. For example, despite considerable progress on national procurement policies, national markets are considered by some as unlikely to be fully open to competition by the end of 1992. In another case, the Commission's power to issue the 1988 Directive on Competition in the Telecommunications Terminal Equipment Market was based upon Article 90 of the Treaty of Rome. This legislative approach was challenged successfully before the European Court of Justice by some of the leading Member States, which, as a consequence, will slow the introduction of competition in this ECU 9.5 billion market. The goal of a single market will require Member States to transfer elements of their sovereignty to the Community and force difficult economic adjustments on their industries and economies; this will include some short-term losses for some countries and their key companies. Such an effort requires tremendous political will. Given these developments, the unified market is unlikely to be achieved in the telecommunications sector by the end of 1992, but is more likely to be attained closer to 1994 or 1995.

In the absence of legislative authority to impose European policies or harmonization, the Commission has focused considerable efforts on the one area where its chances of success are reasonable, i.e. equipment standards and common interconnection policies. Standards represent the mechanism to attain a single, competitive market and play an important role, for example, in the proposed new European cellular digital network and in other new services, such as direct broadcast satellite (DBS) distribution, High Definition Television (HDTV) and an integrated broadband communications network (IBC).

The changes in Europe will affect Canada in different ways. Clearly, liberalization of the European market could afford new potential opportunities for Canadian companies in the sector. Conversely, however, the measures being adopted in Europe will strengthen its companies. There is thus the probability of increased penetration of Canadian markets by more competitive European equipment or services producers (i.e., increased imports), coincident with the displacement of Canadian products or services in third markets (loss of export markets). This will require an ongoing review of the extent and forms of economic participation in Europe that benefit Canada in this sector, eg, direct exports, Canadian direct foreign investments in Europe, joint ventures, and licensing arrangements. Obvious areas for early federal consideration are existing S&T programs, industrial support programs and the general telecommunications policy orientation. Federal-provincial cooperation will also become increasingly important if Canada is to lever its relatively small national R&D resources for maximum effectiveness.

The preliminary analyses of the European Commission's S&T programs indicate Canada has much to learn on the design and management of large-scale, "precompetitive" R&D projects. The two major programs in the telecommunications and information sectors are ESPRIT (the European Strategic Programme for Research in Information Technologies) and RACE (Research in Advanced Communications Technologies in Europe) which, in combination with other minor programs, command a five year Commission budget of $3.2 billion (Cdn); when matched by private sector contributions, the total expenditures are $6.4 billion. This compares with the overall European Community's S&T budget of about $15 billion. ESPRIT, the largest and broadest program in the portfolio (with a five year budget of $2.2 billion), is designed to develop large scale, pre-competitive consortia among European-based information technology companies, in addition to its basic research objectives. The present emphasis in ESPRIT is on the microelectronics industries. RACE, with a budget of $770 million, is directed at the next generation of telecommunications network infrastructure, i.e., integrated broadband communications (IBC). Taken together, these two programs indicate European determination to invest in advanced telecommunications facilities and to foster their integration with new European manufacturing capabilities. In addition, there are other major pan-European programs, such as EUREKA, and, as noted earlier, substantial national R&D efforts.

Canadian participation in the growing European S&T programs could become an important opportunity to acquire both technology and a market presence in post-1992 Europe. Common areas of interest have already been identified in an earlier Department of Communications study[3]. However, as the participation of Canadian-based companies in European S&T programs is limited by Commission policies to companies with research facilities in Europe, other means of association will be required. These may be more, or less, costly in the long run and include joint ventures, acquisitions, or licensing arrangements, among others.

Implications for R&D Co-operation and Industry Programs

1. The extent of resources committed to this sector in Europe suggests a need to reassess Canadian R&D priorities and industry support programs in the telecommunication sector and in the closely related computer/information technology sectors. The domestic review should differentiate between major Canadian players (e.g. Northern Telecom) and small to medium size enterprises (SMEs). Starting points would include: a) the Department of Communications Vision 2000 process and the

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[3] Peter J. Booth, Wescom Communications Research Inc.," Potential for International Cooperation in Information Technology R&D in Western Europe", April 1988.

recent Search 20 conference on Canada's research priorities in this area; b) the programs and consultative processes managed by Industry, Science and Technology Canada (ISTC); and c) the existing S&T programs.

2. Consultations should be initiated by the government with Canadian industry, especially SMEs, to determine the extent of interest in participation in the showcase European S&T programs (RACE, ESPRIT). Potential industry financial commitments should be determined. Likewise the current bilateral agreements with organizations such as the European Space Agency should be continued or enhanced to strengthen the existing base of cooperation with Europe.

3. As part of this examination phase, preparations should be made for selected industry and government representatives to attend the next round of European S&T reviews or general assemblies, e.g., the next ESPRIT annual conference. If Canadian industry is to be geared up to participate in the next phase of RACE or ESPRIT projects, a minimum of 18 to 24 months time is required. The next round for RACE projects is 1991; there are annual reviews for ESPRIT.

4. The possibility of a more formal S&T arrangement with the EC in the telecommunications and computer sectors, including an analysis of Canadian interests in specific sub-sectors, as well as the cost-benefits of different S&T modalities, should be explored in detail. The Technical Cooperation subgroup of the Interdepartmental Working Committee on Telecommunications and Informatics has begun a preliminary analysis; this review should be pursued.

5. The dialogue between government and industry on Europe 1992 should be continued with increased activities by line departments with their constituencies.

Annex 1

EUROPEAN COMMISSION (EC)
DIRECTIVES, RESOLUTIONS, REGULATIONS, RECOMMENDATIONS AND OTHER PROPOSALS IN THE TELECOMMUNICATIONS SECTOR

A. EC Decisions that focus on Standards

1. COUNCIL DIRECTIVE OF 28 MARCH 1983 effective 1 January 1985 on the provision of information on standards and technical regulations (83/189/EEC).

2. COUNCIL RESOLUTION OF 7 MAY 1985 on a new approach to technical harmonization and standards.

3. COUNCIL DIRECTIVE OF 24 JULY 1986 on the initial phase of mutual recognition of type approval for telecommunications terminal equipment (86/361/EEC).

4. COUNCIL DIRECTIVE OF 3 NOVEMBER 1986 on the adoption of common technical specifications of the MAC/packet family of standards for direct satellite television broadcasting (86/529/EEC).

5. COUNCIL RECOMMENDATION OF 22 DECEMBER 1986 on the coordinated introduction of the Integrated Services Digital Network (ISDN) in Europe (86/659/EEC).

6. COUNCIL DECISION OF 22 DECEMBER 1986 on standardization in information technology and telecommunications (87/95/EEC).

7. COUNCIL RECOMMENDATION OF 25 JUNE 1987 on the coordinated introduction of public cellular digital land-based mobile communications into the community (87/371/EEC).

8. CREATION OF the European Telecommunications Standards Institute (ETSI) on March 29, 1988.

9. PROPOSAL for a Council decision of 24 July 1989 on "A Global Approach to Certification and Testing". The proposal for industrial products, is designed to facilitate mutual recognition [COM(89) 209 final].

B. Other EC Decisions and Proposals since 1984

1. COUNCIL RECOMMENDATION OF 12 NOVEMBER 1984 concerning the implementation of a common approach in the field of telecommunications (84/549/EEC).

2. COUNCIL RECOMMENDATION OF 12 NOVEMBER 1984 concerning the first phase of opening up access to public telecommunications contracts (84/550/EEC).

3. COUNCIL DECISION OF 25 JULY 1985 on a definition phase for an R&D programme in advanced communications technologies for Europe (RACE) (85/372/EEC).
4. COUNCIL RESOLUTION OF 9 JUNE 1986 on the use of videoconference and videophone techniques for intergovernmental applications (86/C/160/01).

5. COUNCIL REGULATION OF 27 OCTOBER 1986 instituting a Community programme for the development of certain less-favoured regions of the Community by improving access to advanced telecommunications services (STAR programme) (86/3300/EEC).

6. COUNCIL PROPOSAL OF 30 JUNE 1987: "Towards a Dynamic Economy - Green Paper on the Development of the Common Market for Telecommunications Services and Equipment" (COM) (87/290/EEC).

7. COUNCIL DECISION OF 5 OCTOBER 1987 introducing a network programme on trade electronic data interchange systems (TEDIS) (87/499/EEC).

8. COUNCIL PROPOSAL OF 9 FEBRUARY 1988 on "Implementing the Green Paper on the Development of the Common Market for Telecommunications Services and Equipment" (COM) (88/48).

9. COUNCIL DECISION OF 18 NOVEMBER 1988 on "High Definition Television (HDTV)" (88/659/EEC).

10. COMMISSION DIRECTIVE OF 16 MAY 1988 on "Competition in the Markets in Telecommunications Terminal Equipment" (88/301/EEC).

11. DRAFT COMMISSION DIRECTIVE OF 7 DECEMBER 1988 on "Competition in the Markets for Telecommunications Services".

12. PROPOSAL FOR A COUNCIL DIRECTIVE OF 9 JANUARY 1989 on the establishment of the internal market for telecommunications services through the implementation of Open Network Provision (ONP) (88/825/EEC-SYN/87 (89/C 39/08)).

13. PROPOSAL FOR A COUNCIL DIRECTIVE OF 11 OCTOBER 1989 on procurement procedures in the telecommunications sector, COM(88)378 final in Official Journal 17.2.89.

14. PROPOSED MODIFICATIONS TO COUNCIL DIRECTIVE on:
    a) Open Network Provision (ONP);
    b) terminal equipment; and
    c) Article 90 procedure for directive on telecom services. Press release, Brussels, 28 June 1989.